BUREAU OF LAND MANAGEMENT
ROSWELL FIELD OFFICE

ENVIRONMENTAL ASSESSMENT # NM-510-07-195
Cooker "BCB" Federal Com. #3

(8/31//07)
Element Checklist and Affected Environment and Basis for Determination No Further Analysis

Resources	Not Present On Site	No Impacts	May Be Impacts*	Mitigation Included	BLM Reviewer	Date
CRITICAL ELEMENTS OF THE HUMAN ENVIRONMENT ***Must address in document**						
Air Quality *			√	√	Hydrologist /s/ Michael McGee	9/20/07
Floodplains*	√					
Water Quality - Surface*			√	√		
Water Quality – Ground*			X	X	Geologist /s/ John S. Simitz	10/9/07
Cultural Resources*		X			Archaeologist Rebecca L. Hill 08-R-009-A	11/8/2007
Native American Religious Concerns*	X					
Environmental Justice*		**X**			Environ. Prot. Spec. Richard G. Hill	9/6/07
Areas of Critical Environmental Concern*	X				Plan & Environ. Coord. /s/J H Parman	9/11/07
Farmlands, Prime or Unique*	**X**				Realty Judy Yslas	9/11/07
Invasive, Non-native Species*			√	√	Range Mgmt. Spec. */s/ Joseph M. Navarro*	9/17/07
Wastes, Hazardous or Solid		**X**			Environ. Prot. Spec. Richard G. Hill	9/6/07
Threatened or Endangered Species*	**X**				Biologist /s/ D Baggao	9/26/07
Wetlands/Riparian Zones*	**X**					
Wild and Scenic Rivers*	X				Outdoor Rec. Planer /s/ Paul Happel	9/13/07
Wilderness*	X					

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NON-CRITICAL ELEMENTS						
Resources	Not Present On Site	No Impacts	May Be Impacts*	Mitigation Included	BLM Reviewer	Date
General Topography Surface Geology		**X**			Environ. Prot. Spec. Richard G. Hill	9/6/07
Solid Mineral Resources		√			Geologist /s/ Jerry Dutchover	09/25/07
Fluid Mineral Resources Ground		X			Geologist /s/ John S. Simitz	10/9/07
Paleontology	X				Archaeology Rebecca L. Hill	11/8/2007
Soil			√	√	Hydrologist /s/ Michael McGee	9/20/07
Watershed/Hydrology			√	√		
Vegetation			√	√	Range Mgmt. Spec. */s/ Joseph M. Navarro*	9/17/07
Livestock Grazing			√	√		
Special Status Species	**X**				Biologist /s/ D Baggao	9/26/07
Wildlife			**X**	**X**		
Recreation			X		Outdoor Rec. Planer /s/ Paul Happel	9/13/07
Visual Resources			X			
Cave/Karst			X			
Public Health and Safety		**X**	X		Environ. Prot. Spec. Richard G. Hill	9/6/07

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1.0 Introduction

Yates Petroleum Corporation has filed an application to drill the Cooker "BCB" Federal Com. #3 gas well in Section 14, T. 6 S., R. 26 E.

This site-specific analysis tiers into and incorporates by reference the information and analysis contained in the Roswell Resource Area Proposed Resource Management Plan Final Environmental Impact Statement (PRMP/FEIS). This document is available for review at the Roswell Office. This project EA addresses site-specific resources and/or impacts that are not specifically covered within the PMP/FEIS, as required by the National Environmental Policy Act of 1969 (NEPA), as amended (Public Law 91-90, 42 U.S.C. 4321 et seq.).

1.1 Purpose and Need

The purpose for the proposal is to define and produce oil or natural gas on one or more valid Federal mineral lease(s) issued to the applicant by the BLM. It is the policy of the BLM to make mineral resources available for disposal and to encourage development of mineral resources to meet National, regional, and local needs. The Mineral Leasing Act of 1920 (MLA), as amended [30 USC 181 et seq.], authorizes the BLM to issue oil and gas leases for the exploration of oil and gas, and permit the development of those leases. An approved Application for Permit to Drill (APD), issued by the BLM, would authorize the applicant to construct and drill a well.

1.2 Conformance with Applicable Land Use Plan and Other Environmental Assessments

Pursuant to 40 Code of Federal Regulations (CFR) 1508.28 and 1502.21, this site-specific EA tiers to and incorporates by reference the information and analysis contained in the Roswell Resource Area Proposed Resource Management Plan/Final Environmental Impact Statement (PRMP/FEIS, BLM [January 1997]), which was approved as the Approved Resource Management Plan for the Roswell Field Office (RFO) of the BLM by the Record of Decision (ROD) signed October 10, 1997. The PRMP/FEIS and ROD are available for review at the Roswell Field Office, Roswell, New Mexico. This EA addresses the resources and impacts on a site-specific basis as required by the National Environmental Policy Act (NEPA) of 1969, as amended (Public Law 91-90, 42 USC 4321 et seq.). The proposed project would not be in conflict with any State, local, or county plans.

1.3 Federal, State or Local Permits, Licenses or Other Consultation Requirements

Under Section 402 of the Clean Water Act (as amended), the U.S. Environmental Protection Agency (EPA), was directed to develop a phased approach to regulate storm water discharges under the National Pollutant Discharge Elimination System (NPDES) program. Industrial activities disturbing land may require permit coverage through a NPDES storm water discharge. Depending on the acreage disturbed, either a Phase I industrial activity (5 or more acres disturbance) or a Phase II small construction activities (between 1 and 5 acres disturbance) permit may be required. Additionally, an U.S. Army Corps of Engineers Section 404 permit for the discharge of dredge and fill materials may also be required. Additionally, a New Mexico Surface Water Quality Bureau 401 certification may also be required under a U.S. Army Corps of Engineers Section 404 permit. Operators are required to obtain all necessary permits and approvals prior to any disturbance activities.

Roswell Field Office staff reviewed the proposed action and determined it would be in compliance with threatened and endangered species management guidelines outlined in the 1997 Biological Assessment (Cons. #2-22-96-F-102). No further consultation with the U.S. Fish and Wildlife Service is required.

Compliance with Section 106 responsibilities of the National Historic Preservation Act are adhered to by following the BLM – New Mexico State Historic Preservation Officer protocol agreement, which is authorized by the National Programmatic Agreement between the *BLM*, the *Advisory Council on Historic Preservation*, and the *National Conference of State Historic Preservation Officers*, and other applicable BLM handbooks.

Additionally, the Operator is required to:

- Comply with all applicable Federal, State and local laws and regulations.

- Obtain the necessary permits for the drilling, completion and production of these wells including water rights appropriations, the installation of water management facilities, water discharge permits and relevant air quality permits.

2.0 Alternatives Including the Proposed Action

2.1 Alternative A - No Action

The BLM NEPA Handbook (H-1790-1) states that for EAs on externally initiated proposed actions, the No Action Alternative generally means that the proposed activity will not take place. This option is provided in 43 CFR 3162.3-1 (h) (2). This alternative would deny the approval of the proposed application, and the current land and resource uses would continue to occur in the proposed project area. No mitigation measures would be required.

Under the terms of valid Federal mineral leases, the lessee has the right to develop mineral resources. Other laws, regulations, and policy include provisions for the economic development of existing leases. By Federal law, the government must abide by the terms, conditions, and

provisions agreed to when leases were issued. In the Council of Environmental Quality regulations (40 CFR 1500.3), it states that parts 1500-1508 of this title provide regulations applicable to and binding on all Federal agencies for implementing the procedural provisions of the National Environmental Policy Act of 1969…" except where compliance would be inconsistent with other statutory requirements".

The No Action Alternative is presented for baseline analysis of resource impacts.

2.2 Alternative B Proposed Action

Yates Petroleum Corporation submitted the Application for Permit to Drill on 10/5/07. Yates Petroleum Corporation submitted a Notice of Staking on 8/31/07, to drill the Cooker "BCB" Federal Com. #3 gas well.

1. The proposed road begins from the Caprock County Road (C2-059) and is approximately 3119.4 feet in length. The existing length of road is approximately 2,526 feet long and about 1,268.4 feet of road would cross public land. The proposed road will require 593.4 feet of new construction on federal surface and will access the southwest corner the proposed well pad.

The road would have a driving surface (travelway) of 14 feet, with a maximum 30-foot wide surface disturbance area for the road construction. All other existing access roads would be maintained in a good or better condition than those existing prior to commencement of operations. A cattleguard with a swinging arm gate would be constructed and installed at the fence crossing in SW¼NW¼SE¼ in Sec. 14 - T. 6 S. - R. 26 E..

2. The construction of the proposed well pad would be 325 feet long by 150 feet wide (plus 125' X 75'). The construction of the reserve pit would be about 175 feet by 150 feet and dug 4 feet below ground level. The reserve pit would be located on the north side of the well pad. Standard oilfield construction equipment consisting of; track-type tractors, motor graders, dump trucks and water trucks would be used to construct the access road and well pad. A rotary drilling rig would be used to drill the well to a depth of 5,965 feet. Associated production facilities (e.g., pipeline, separator, storage tanks, etc.) would be installed during the production phase of this well.

3. A review of records revealed that the road accessing this well will be located entirely on lease. Any off lease road access is covered by Road ROW NM 90290, issued to Yates and provides Yates access from the point the lease road leaves the dedicated Aztec County road. Records were checked from the point that the road leaves the dedicated road to the point where it enters the well location. Therefore no right-of-way is required.

Proposed Well Information:

Well Name	Number	Township	Range	Section	Lease Number	Date Lease Issued
Cooker "BCB" Fed. Com.	3	6 S.	26 E.	14	NM-101575	11/18/1998

County: Chaves County New Mexico

Applicant: Yates Petroleum Corporation

Surface Owners: Bureau Of Land Management

2.3 Alternative C

The APD will be approved as proposed. No modifications, or alternatives, to the original proposal received from the operator, were identified as the result of the onsite inspection held on 9/10/07.

2.4 Alternatives Considered But Not Analyzed In Detail

Relocate the Proposed Action:

The well location is determined on the basis of subsurface geologic information. No other alternative location would have significantly fewer impacts than, or have a clear advantage over, the projected location. Therefore, the alternative of changing the location involved in this action is not analyzed further in this EA.

3.0 Description of Affected Environment

This section describes the environment that would be affected by implementation of the alternatives described in Section 2. Aspects of the affected environment described in this section focus on the relevant major resources or issues. Certain critical environmental components require analysis under BLM policy. These items are included below in Table 3.0, found as the first page of this document. Following the table, only the aspects of the affected environment that are potentially impacted are described.

3.1 Air Quality

The area of the proposed action is considered a Class II air quality area. A Class II area allows moderate amounts air quality degradation. The primary sources of air pollution are dust from blowing wind on disturbed or exposed soil and exhaust emissions from motorized equipment.

3.2 Areas of Critical Environmental Concern (ACECs)

The proposed action would not be located within any ACEC presently designated by the RMP.

3.3 Cultural Resources

The project falls within the Southeastern New Mexico Archaeological Region. This region contains the following cultural/temporal periods: Paleoindian (ca. 12,000-8,000 B.C.), Archaic (ca. 8000 B.C. –A.D. 950), Ceramic (ca. A.D. 600-1540) Protohistoric and Spanish Colonial (ca. A.D. 1400-1821), and Mexican and American Historical (ca. A.D. 1822 to early 20th century). Sites representing any or all of these periods are known to occur within the region. A more complete discussion can be found in *Living on the Land: 11,000 Years of Human Adaptation in Southeastern New Mexico An Overview of Cultural Resources in the Roswell District, Bureau of Land Management* published in 1989 by the U.S. Department of the Interior, Bureau of Land Management. A cultural resource inventory shall be conducted of the area of effect for the proposed project prior to any ground disturbing activities.

3.4 Native American Religious Concerns

A review of existing information indicates the proposed action is outside any known Traditional Cultural Property.

3.5 Environmental Justice

Executive Order 12898 requires Federal agencies to assess projects to ensure there is no disproportionately high or adverse environmental, health, or safety impacts on minority and low-income populations.

3.6 Farmlands, Prime or Unique - Not Present.

3.7 Floodplains - Not Present.

3.8 Invasive & Noxious Weeds

There are no known populations of invasive or noxious weed species on the proposed access road and well pad.

Infestations of noxious weeds can have a disastrous impact on biodiversity and natural ecosystems. Noxious weeds affect native plant species by out-competing native vegetation for light, water and soil nutrients. Noxious weeds cause estimated losses to producers $2 to $3 billion annually. These losses are attributed to: (1) Decreased quality of agricultural products due to high levels of competition from noxious weeds; (2) decreased quantity of agricultural products due to noxious weed infestations; and (3) costs to control and/or prevent the noxious weeds.

Further, noxious weeds can negatively affect livestock and dairy producers by making forage either unpalatable or toxic to livestock, thus decreasing livestock productivity and potentially increasing producers' feed and animal health care costs. Increased costs to operators are eventually borne by consumers.

Noxious weeds also affect recreational uses, and reduce realty values of both the directly influenced and adjacent properties.

Recent federal legislation has been enacted requiring state and county agencies to implement noxious weed control programs. Monies would be made available for these activities from the federal government, generated from the federal tax base. Therefore, all citizens and taxpayers of the United States are directly affected when noxious weed control prevention is not exercised.

3.9 Threatened or Endangered Species

Under Section 7 of the Endangered Species Act of 1973 (as amended), the BLM is required to consult with the U.S. Fish and Wildlife Service on any proposed action which may affect Federal listed threatened or endangered species or species proposed for listing. RFO reviewed and determined the proposed action is in compliance with listed species management guidelines outlined in the 1997 Biological Assessment (Cons. #2-22-96-F-102). No further consultation with the Service is required.

There are no known threatened or endangered species of plant or animals within the project area. The list of federal threatened, endangered and candidate species reviewed for this EA can be found in Appendix 11 of the Roswell Approved RMP (AP11-2).

3.10 Wastes, Hazardous or Solid

No waste material will be removed from the project area and upon reclamation of the reserve pit the NMOCD rules will be imposed and the reserve pit contents will be encapsulated.

3.11 Water Quality

Surface:

Surface water within the area is affected by geology, precipitation, and water erosion. Factors that currently affect surface water resources include livestock grazing management, oil and gas development, recreational use and brush control treatments. No perennial surface water is found on public land in the area. Ephemeral surface water within the area may be located in tributaries, playas, alkali lakes and stock tanks.

Ground:

Groundwater within the area is affected by geology and precipitation. Factors that currently affect groundwater resources in the area include livestock grazing management, oil and gas development, groundwater pumping and possible impacts from brush control treatments. Water for stock and irrigation use is obtained from the Quaternary Alluviums. Fresh water for stock and domestic use is obtained from the Artesia Group. Depths for fresh water range from 8' to 250'. Additionally, the well location is near the fresh/saline water interface of the San Andres Formation and because of this there is a possibility of fresh water down to a depth range of 900' to 950' according to the NMOCD. Deepest Expected Fresh Water: 950'.

3.12 Wetlands /Riparian Zones – Not Present

3.13 General Topography/Surface Geology

The topographic characteristics and/or regional setting of the project area are: The topography of the project area is flat without any major land features within the immediate project area. The area has loamy sandy type soils with very small minute sand dunes.

3.14 Mineral Resources

There are no nearby sources for construction material (caliche/gravel) for surfacing the access road and well pad. Material may be obtained from abandoned oil and gas pads no longer in use.

3.15 Paleontology – This undertaking is unlikely to affect paleontological resources.

3.16 Soil

The ***Soil Survey of Chaves County, New Mexico, Northern Part (USDA Soil Conservation Service 1980)*** was used to describe and analyze impacts to soils from the proposed action. The soil map units represented in the project area are:

Ratliff_Redona association, 0 to 2 percent slopes (RBA) Permeability of the Ratliff soil is moderate. Runoff of the Ratliff soil is slow and the hazard of water erosion is slight and the hazard of soil blowing is high. Permeability of the Redona soil moderate. Runoff of the Redona soil is slow and the hazard of water erosion is slight and soil blowing is high.

3.17 Watershed – Hydrology

The watershed and hydrology in the area is affected by land and water use practices. The degree to which hydrologic processes are affected by land and water use depends on location, extent, timing and the type of activity. Factors that currently cause short-lived alterations to the hydrologic regime in the area include livestock grazing management, recreational use activities, groundwater pumping and also oil and gas developments such as well pads, permanent and temporary roads, pipelines and powerlines.

3.18 Vegetation MIXED DESERT SHRUB COMMUNITY

This lease is within the mixed desert shrub vegetative community as identified in the Roswell Resource Management Plan/Environmental Impact Statement (RMP/EIS). Appendix 11 of the Draft RMP/EIS describes the Desired Plant Community (DPC) concept and identifies the components of each community. The mixed desert shrub community is primarily made up of desert grasses, shrubs and cacti. The predominant shrub species include creosote *(Larrea tridentata),* mesquite *(Prosopis glandulosa),* tarbush *(Flourensia cernua),* saltbush *(Atriplex canescens),* little leaf sumac *(Rhus microphylla),* sage *(Artemesia* spp.), yucca *(Yucca* spp.) and javalinabush *(Condalia* spp.) Common cacti encountered are claret cup *(Echinocereus triglochidiatus*), cholla *(Opuntia imbricata),* prickly pear *(Opuntia phaeacantha),* and eagle claw *(Echinocactus horizonthalonius).* Forbs include plantain *(Plantago* spp.), globemallow *(Sphaeralcea* spp.), bladderpod *(Lesquerella* spp.) and buckwheat *(Eriogonum* spp.). Grasses include fluffgrass *(Dasyochloa pulchella),* sideoats grama *(Bouteloua curtipendula),* black grama *(Bouteloua eriopoda),* burrograss *(Scleropogon brevifolius),* dropseed *(Sporobolus* spp.), tobosa *(Pleuraphis mutica)* and blue grama *(Bouteloua gracilis).* Additional species included are gyp grama (*Bouteloua breviseta),* coldenia *(Coldenia* spp.), gyp muhly (Muhlenbergia spp.) and Mormon tea (Ephedra spp.). Biological crusts also make up a major portion of the soil surface where these inclusions may occur; these crusts are indicative of gyp outcrop soil and protect the surface from undue erosion.

The Ecological Site Description for the well pad and access road is SD-3 Loamy (Southern Desertic Basins, Plains, & Mountains.

3.19 Livestock Grazing/Range

This proposed action is located on BLM grazing allotment #65007 Henery Tanks, permitted to Brian Cooper, P.O. Box 33, Roswell, NM 88202 Current permitted use is 106 AU's year long @ 43% public land for 547 AUM's Animal Unit Months. Cattle and horses are the class of livestock authorized.

3.20 Wildlife

The vegetation found at this site provides habitat to a large range of wildlife species. Some of the common mammals are mule deer, pronghorn, badger, coyote, fox, jackrabbit, cottontails, kangaroo rats, and pocket gophers. It also provides habitat for a variety of grassland and desert birds. Important passerine birds include meadowlarks, horned larks, lark buntings, Cassin's sparrows, lark sparrows, Chihuahuan ravens, and loggerhead shrikes. Other birds include scaled quail, mourning doves, roadrunners, common nighthawks, killdeer, and a variety of raptors including red tailed and Swainson's hawks, northern harriers, great horned owls, and burrowing owls. It also provides habitat to a large variety of common lizards and snakes.

3.21 Special Status Species

There are no known special status species in the project area.

In accordance with BLM Manual 6840, BLM manages certain sensitive species not federally listed as threatened or endangered in order to prevent or reduce the need to list them as threatened or endangered in the future. Included in this category are State listed endangered species and Federal candidate species which receive no special protections under the Endangered Species Act. Special status species with potential to occur in the proposed project area are listed in Table 3.22.1.

3.22 Visual Resources

Visual Resource Management (VRM) on public land is conducted in accordance with BLM Handbook 8410 and BLM Manual 8411.

3.23 Recreation

The area around the proposed action site is primarily used by recreational visitors engaged in (hunting) (caving) (sight seeing) and other recreational activities. Non-recreation visitors include oil and gas industrial workers and ranchers.

3.24 Cave/Karst

No surface cave/karst features were observed in the immediate vicinity of the proposed actions. However, the proposed actions are located in the *Medium Karst Potential Area*.

3.25 Public Health and Safety

The project will not be detrimental to public health. The operator will insure that all phases of the project operations are conducted in workman like manner. Precautionary procedures and/or measures will be strictly adhered to in order provide a safe and sound working environment for the life of the well.

4.0 Environmental Consequences and Proposed Mitigation Measures

No Action Alternative

Under the No Action Alternative, the proposed wells would not be drilled. There would be no new impacts from oil and gas production to the resources. The No Action Alternative would result in the continuation of the current land and resource uses in the project area and is used as the baseline for comparison of alternatives.

Alternative B

Under Alternative B, the Proposed Action, the wells would be drilled as originally proposed, without changes to reduce the potential impact to the environment. A summary of potential surface disturbance is presented in Table 4.0. Descriptions of potential impacts on individual resources for action alternatives is presented in the following text. Also described are mitigation measures that could be incorporated by the BLM where appropriate as Conditions of Approval attached to the permit.

Table 4.0 Summary of Disturbance

Facility	Number of Miles	Acreage of Disturbance	Duration of Disturbance
Well Pad		2.2	Long Term
New Road Construction	0.1	0.4	Long Term

Short-term impacts are those which can be stabilized or mitigated rapidly (within 5 years). Long-term impacts are those that would substantially remain for more than 5 years.

4.1 Air Quality

The area of the proposed action is considered a Class II air quality area. A Class II area allows moderate amounts air quality degradation. The primary sources of air pollution are dust from blowing wind on disturbed or exposed soil and exhaust emissions from motorized equipment.

4.1.1 Direct and Indirect Impacts

Air quality would temporary be directly impacted with pollution from exhaust emissions, chemical odors, and dust that would be caused by the motorized equipment used to construct the access road, well pad, and by the drilling rig that will be used to drill the well. Dust dissemination would discontinue upon completion of the construction phase of the access road and well pad. Air pollution from the motorized equipment would discontinue at the completion of the drilling phase of the operations. The winds that frequent the southeastern part of New Mexico generally disperse the odors and emissions. The impacts to air quality would be greatly reduced as the construction and drilling phases are completed. Other factors that currently affect air quality in the area include dust from livestock herding activities, dust from recreational use, and dust from use of roads for vehicular traffic.

4.1.2 Mitigation - None

4.2 Areas of Critical Environmental Concern - Not Present

4.3 Cultural Resources

4. 3.1 Direct and Indirect Impacts

A cultural inventory survey, 08-R-009-A, was conducted for the Cooker "BCB" Federal Com #3. During this survey one cultural property was discovered and recorded within the survey space area, but not within the area of potential effect (APE). There should be no direct or indirect impact to the cultural resource.

4.3 .2 Mitigation

4.4 Native American Religious Concerns

To date, the area to be affected by project construction has not been identified by interested tribes as being a traditional cultural property.

4.5 Environmental Justice

4.5.1 Direct and Indirect Impacts

No minority or low income populations would be directly affected in the vicinity of the proposed action. Indirect impacts could include impacts due to overall employment opportunities related to the oil and gas and service support industry in the region, as well as the economic benefits to State and County governments related to royalty payments and severance taxes. Other impacts could include a small increase in activity and noise disturbance in areas used for grazing, wood gathering or hunting. However, these impacts would apply to all public land users in the project area.

4.6 Farmlands, Prime or Unique - Not Present.

4.7 Floodplains- Not Present.

4. 7.1 Direct and Indirect Impacts

Surface disturbance from the development of the well pad, access road, pipelines, and powerlines can result in impairment of the floodplain values from removal of vegetation, removal of wildlife habitat, impairment of water quality, decreased flood water retention and decreased groundwater recharge.

4.7 .2 Mitigation

The operator shall stockpile the topsoil from the surface of the well pad which will be used for surface reclamation of the well pad. The reserve pit shall be recontoured and reseeded as described in the attached Conditions of Approval. Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation/restoration of the disturbed areas as described in the attached Conditions of Approval.

4.8 Invasive, Non-native Species

4.8 .1 Direct and Indirect Impacts

The construction of an access road and well pad may unintentionally contribute to the establishment and spread of noxious weeds. Noxious weed seed could be carried to and from the project areas by construction equipment, the drilling rig and transport vehicles. The main mechanism for seed dispersion on the road and well pad is by equipment and vehicles if they were previously used and or driven across or through noxious weed infested areas. The potential for the dissemination of invasive and noxious weed seed may be elevated by the use of construction equipment typically contracted out to companies that may be from other geographic areas in the region. Washing and decontaminating the equipment prior to transporting onto and exiting the construction areas would minimize this impact.

Impacts by noxious weeds will be minimized due to requirements for the company to eradicate the weeds upon discovery. Multiple applications may be required to effectively control the identified populations.

4.8 .2 Mitigation

In the event noxious weeds are discovered after the construction of the access road and well pad, measures will be taken to mitigate those impacts.

4.9 Threatened or Endangered Species - None Present.

4. 9.1 Direct and Indirect Impacts - None

4. 9.2 Mitigation - None

4.10 Wastes, Hazardous or Solid

4.10.1 Direct and Indirect Impacts

The lease action falls under environmental regulations that impact exploration and production waste management and disposal practices that impose responsibility and liability on the operator for the protection of human health and the environment from harmful waste management practices or discharges.

4.10.2 Mitigation - The COAs have mitigation measures that would minimize any potential impacts.

4.11 Water Quality:

Surface;

4.11.1A Direct and Indirect Impacts

Surface disturbance from the construction of the well pad, access road, pipelines, and powerlines can result in degradation of surface water quality and groundwater quality from non-point source pollution, increased soil losses, and increased gully erosion.

Potential direct impacts that would occur due to construction of the well pad, access road, pipelines, and powerlines include increased surface water runoff and off-site sedimentation brought about by soil disturbance: increased salt loading and water quality impairment of surface waters; channel morphology changes due to road and pipeline crossings; and possible contamination of surface waters by produced water. The magnitude of these impacts to water resources would depend on the proximity of the disturbance to the drainage channel, slope aspect and gradient, degree and area of soil disturbance, soil character, duration and time within which construction activity would occur, and the timely implementation and success or failure of mitigation measures.

Direct impacts would likely be greatest shortly after the start of construction activities and would likely decrease in time due to natural stabilization, and reclamation efforts. Construction activities would occur over a relatively short period; therefore, the majority of the disturbance would be intense but short lived. Direct impacts to surface water quality would be minor, short-term impacts which may occur during storm flow events. Indirect impacts to water-quality related resources, such as fisheries, would not occur.

Petroleum products and other chemicals, accidentally spilled, could result in surface and groundwater contamination. Similarly, possible leaks from reserve and evaporation pits could degrade surface and ground water quality. Authorization of the proposed projects would require full compliance with BLM directives and stipulations that relate to surface and groundwater protection.

4.11.2A Mitigation

The use of a plastic-lined reserve pit would reduce or eliminate seepage of drilling fluid into the soil and eventually reaching groundwater. Spills or produced fluids (e.g., saltwater, oil, and/or condensate in the event of a breech, overflow, or spill from storage tanks) could result in contamination of the soil onsite, or offsite, and may potentially impact surface and groundwater resources in the long term.

B. Groundwater;

4.11.1B Direct and Indirect Impacts

Petroleum products and other chemicals, accidentally leaked through casing, could result in surface and groundwater contamination. Similarly, possible leaks from reserve and evaporation pits could degrade surface and ground water quality. Authorization of the proposed projects would require full compliance with BLM directives and stipulations that relate to surface and groundwater protection.

4.11.2B Mitigation

The casing and cementing requirements imposed on the proposed well would reduce or eliminate the potential for groundwater contamination from drilling muds and other surface sources.

The use of a plastic-lined reserve pit would reduce or eliminate seepage of drilling fluid into the soil and eventually reaching groundwater. Spills or produced fluids (e.g., saltwater, oil, and/or condensate in the event of a breech, overflow, or spill from storage tanks) could result in contamination of the soil onsite, or offsite, and may potentially impact surface and groundwater resources in the long term.

4.12 Wetlands/Riparian Zones – None Present.

4.12.1 Direct and Indirect Impacts - None

4.12.2 Mitigation - None

4.13 Wild and Scenic Rivers - Not Present.

4.14 Wilderness - Not Present.

4.15 General Topography/Surface Geology

The surface disturbance anticipated from the construction of the well pad and access road would have minimal impacts on the area of the operations. No major land or soil displacement would occur from the cradle to grave operations associated with construction of the access road and well pad.

4.15.1 Direct and Indirect Impacts

Direct impacts would result from the removal of the surface soils (topsoil) during construction of the well pad and access road. The consequential earth moving activities would indirectly impact the vegetation and would cause the fragmentation of the surface habitat where small animals live in the project area.

4.15.2 Mitigation

The inclusion of mitigation measures to conserve the landscape as much as possible in the Conditions of Approval would lessen the impacts from the surface disturbance activities on this project.

4.16 Mineral Resources – No impacts

4.16.1 Direct and Indirect Impacts

4.16.2 Mitigation

4.17 Paleontology - No impacts

4.18 Soil

4.18.1 Direct and Indirect Impacts

The construction of the access road, well pad, and reserve pit would physically disturb the topsoil and would expose the substratum soil. (See -Table 4.0 for Summary of Disturbance).

Direct impacts resulting from the oil and gas construction of the well pad, access road, and reserve pit include removal of vegetation, exposure of the soil, mixing of horizons, compaction, loss of top soil productivity and susceptibility to wind and water erosion. Wind erosion would be expected to be a minor contributor to soil erosion with the possible exception of dust from vehicle traffic. These impacts could result in increased indirect impacts such as runoff, erosion and off-site sedimentation. Activities that could cause these types of indirect impacts include construction and operation of well sites, access roads, gas pipelines and facilities.

Contamination of soil from drilling and production wastes mixed into soil or spilled on the soil surfaces could cause a long-term reduction in site productivity. Some of these direct impacts can be reduced or avoided through proper design, construction and maintenance and implementation of best management practices.

Additional soil impacts associated with lease development would occur when heavy precipitation causes water erosion damage. When water saturated segment(s) on the access road become impassable, vehicles may still be driven over the road. Consequently, deep tire ruts would develop. Where impassable segments are created from deep rutting, unauthorized driving may occur outside the designated route of the access road.

4.18.2 Mitigation

The operator shall stockpile the topsoil from the surface of the well pad which will be used for surface reclamation of the well pad. The impact to the soil would be remedied upon reclamation of the well pad when the stockpiled soil that was specifically conserved to establish a seed bed is spread over the well pad and vegetation re-establishes.

The reserve pit shall be recontoured and reseeded as described in the attached Conditions of Approval. Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation/restoration of the disturbed areas as described in the attached Conditions of Approval.

Road constructions requirements and regular maintenance would alleviate potential impacts to the access road from water erosion damage.

4.19 Watershed - Hydrology

4.19.1 Direct and Indirect Impacts

Construction and surface disturbance activities from the construction of the well pad, access road, pipelines and powerlines can result in long term and short term alterations to the hydrologic regime. Peak and low flow of perennial streams, ephemeral, and intermittent rivers and streams would be directly affected by an increase in impervious surfaces resulting from the construction of the well pad and road. The potential hydrologic effects to peak flow is reduced infiltration where

surface flows can move more quickly to perennial or ephemeral rivers and streams, causing peak flow to occur earlier and be larger. Increased magnitude and volume of peak flow can cause bank erosion, channel widening, downward incision and disconnection from the floodplain. The potential hydrologic effects to low flow is reduced surface storage and groundwater recharge, resulting in reduced baseflow to perennial, ephemeral, and intermittent rivers and streams. The direct impact would be that hydrologic processes may be altered where the perennial, ephemeral, and intermittent river and stream system responds by changing physical parameters, such as channel configuration. These changes may in turn impact chemical parameters and ultimately the aquatic ecosystem.

Long term direct and indirect impacts to the watershed and hydrology would continue for the life of the well and would decrease once all well pad and road surfacing material has been removed and reclamation of the well pad, access road, pipelines, and powerlines has taken place. Short term direct and indirect impacts to the watershed and hydrology from access roads that are not surfaced with material would occur and would likely decrease in time due to reclamation efforts.

4.19.2 Mitigation

The operator shall stockpile the topsoil from the surface of the well pad which will be used for surface reclamation of the well pad. The reserve pit shall be recontoured and reseeded as described in the attached Conditions of Approval. Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation/restoration of the disturbed areas as described in the attached Conditions of Approval.

4.20 Vegetation

4.20.1 Direct and Indirect Impacts

The construction of the access road and well pad would remove native vegetation. (See - Table 4.0 for Summary of Disturbance).

If it is a producing well, reclamation would not commence until the well is a depleted producer and plugged and abandoned. Vegetative recovery on the access road and well pad would depend on life of the well. Native vegetation would encroach on the well pad over time with only high traffic areas remaining unvegetated. If drilled as a dry hole and plugged, reclamation of the access road and well pad would immediately follow. Vegetative impacts would be short-term when the access road and well pad re-vegetate within a few years, and reclamation of the access road and well pad are successful.

4.20.2 Mitigation

No impact to vegetation is anticipated. However measures will be taken in the event impacts to vegetation are found.

4.21 Livestock Grazing/Range - On September 21, 2007 Joe Navarro, Rangeland Mngt. Spec.

and Sheryl Post, Rangeland Mgmt. Spec. visited the proposed site to check pad area in relationship to range studies. The range study was found to be ½ to ¾ of a mile from the edge of the pad. Even with construction disturbance and the reserve pit there will be no damage to the range study site.

4.21.1 Direct and Indirect Impacts

There would be some minor disruption of livestock grazing in the pasture, specifically on the well pad, during the construction and drilling phase of the well. Vehicle traffic would increase in the area, which may lead to conflicts with livestock. The proposed access road will cross through Hughes Trap Pasture fence, which facilitates the need to cut this fence leading directly to the proposed well pad.

4.21.2 Mitigation

If any conflicts with livestock do arise as a result of the access road and well pad construction, mitigation measures will be taken, and consultation with the allottee will mitigate those impacts. As a result of cutting East Hughes Pasture fence, a cattleguard must be installed to contain livestock on the north side of this fenceline.

4.22 Special Status Species – None Present.

4.22.1 Direct and Indirect Impacts - None

4.22.2 Mitigation - None

4.23 Wildlife

4.23.1 Direct and Indirect Impacts

Some small wildlife species may be killed and their dens or nests destroyed during construction of the access roads and well pads. The construction of the access roads and well pads could cause fragmentation of wildlife habitat. The short-term negative impact to wildlife would occur during the construction phase of the operations would be due to noise and habitat destruction. In general, most wildlife species would become habituated to the new facilities. For other wildlife species with a low tolerance to activities, the operations on the well pads would continue to displace wildlife from the areas due to ongoing disturbances such as vehicle traffic and equipment maintenance. Upon abandonment of the wells, the areas would revegetate and wildlife would return to previous levels.

4.23.2 Mitigation

The conditions of approval would alleviate most losses of wildlife species, such as; netting storage tanks, installation or other modifications of cones on separator stacks, and timing stipulations.

4.24 Recreation

Oil and gas activities would have little or no affect on the recreational opportunities, because the recreating public has no legal or physical access to this parcel of public land. Recreation opportunities that could occur in this area are limited or non-existent due to land patterns.

4.24.1 Direct and Indirect Impacts - None

4.24.2 Mitigation - None

4.25 Visual Resources

Facilities, such as produced water, condensate or oil storage tanks that rise above eight feet, would provide a geometrically strong vertical and horizontal visual contrast in form and line to the characteristic landscape and vegetation, which have flat, horizontal to slightly rolling form and line. The construction of an access road, well pad and other ancillary facilities, other than facilities greater in height than eight feet, would slightly modify the existing area visual resources.

The Class III objective is to: Partially retain existing landscape character. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate a casual observer's view. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

Through color manipulation, by painting well facilities to blend with the rolling to flat vegetative and/or landform setting with a gray-green to brownish color, the view is expected to favorably blend with the form, line, color and texture of the existing landscape. The flat color (Juniper Green (olive drab) from the standard or supplemental environmental colors also closely approximates the color of the setting. All facilities, including the meter building, would be painted this color.

4. 25.1 Direct and Indirect Impacts

Through color manipulation, by painting well facilities to blend with the rolling to flat vegetative and/or landform setting with a gray-green to brownish color, the view is expected to favorably blend with the form, line, color and texture of the existing landscape

4.25.2 Mitigation

The flat color Olive Drab 18-0622 TPX from the Supplemental Environmental Colors Chart is to be used on all facilities to closely approximates the vegetation within the setting. All facilities, including the meter building, would be painted this color.

4.26 Cave/Karst

There would be no impact to known cave entrances, or karst features within the areas of the proposed actions. The proposed action is located in a medium karst potential are

4. 26.1 Direct and Indirect Impacts - None

4. 26.2 Mitigation - None

4.27 Public Health and Safety

4.27.1 Direct and Indirect Impacts

The construction and drilling operations will be conducted in a safe workman like manner and no impacts are anticipated to occur when the operations are conducted in a professional constructive manner.

4.27.2 Mitigation - non-required

4.28 Cumulative Impacts

The leased area of the proposed action has been industrialized with oil and gas well development. The surface disturbance for each project that has been permitted has created a spreading out of land use fragmentation. The cumulative impacts fluctuate with the gradual reclamation of well abandonments and the creation of new additional surface disturbances in the construction of new access roads and well pads. The on going process of restoration of abandonments and creating new disturbances for drilling new wells gradually accumulates as the minerals are extracted from the land. Preserving as much land as possible and applying appropriate mitigation measures will alleviate the cumulative impacts.

While it is likely that there will be no significant cumulative impact from the proposed actions, continued oil and gas development, and other surface-disturbing activities in these areas, may potentially have negative cumulative impacts on vegetation, soil, water, livestock, wildlife and visual resources.

5.0 Consultation/Coordination

This section includes individuals or organizations from the public and its' users, the interdisciplinary team, and permittees that were contacted during the development of this document. Onsite inspection(s) was conducted on (9/10/07)

Table 5.1 Summary of Public Contacts Made During Preparation of Document and Interdisciplinary Team

Public Contact	Title	Organization	Present at Onsite?
Mrs. Debbie Caffall	Regulatory Agent	Yates Petro. Corp.	Present
ID Team Member	Title	Organization	Present at Onsite?
Richard G. Hill	Environmental Protection Specialist	RFO	Present

6.0 Appendices

The Roswell Field Office; Well Location Map (Exhibit A), Pecos District-RFO, Conditions of Approval. and the special requirements derived from this EA, would be applied to this proposed action to minimize the surface disturbance and conserve the surrounding landscape.

6.1 References

U.S. Department of the Interior, Bureau of Land Management. January 1997, *Proposed Resource Management Plan and Final Environmental Impact Statement*. Roswell, New Mexico.

U.S. Department of the Interior, Bureau of Land Management. October 10,1997, *Resource Management Plan Record of Decision*. Roswell, New Mexico.

6.1.1 APD, Complete

6.1.2 Authorities

Code of Federal Regulations (CFR) 3160
40 CFR All Parts and Sections inclusive Protection of Environment, Revised as of July 1, 2001.
43 CFR, All Parts and Sections inclusive - Public Lands: Interior. Revised as of October 1, 2000.
U.S. Department of the Interior, Bureau of Land Management and Office of the Solicitor (editors). 2001. The Federal Land Policy and Management Act, as amended. Public Law 94-579.

6.1.3 Other Supporting Information

Department of the Interior,
Bureau of Land Management

Roswell Field Office
2909 W. Second Street
Roswell, New Mexico 88201

Project: Cooker "BCB" Federal Com. #3
Location: Section: 14, T. 6 S., R. 26 E.
Applicant: Yates Petroleum Corporation
Roswell Field Office: (505) 627-0272

EA Log Number: NM-510-07-195
Lease Number: NM-101575
File Code: 3160

Finding of No Significant Impact

Impact identification and analysis of approving the project proposal and/or alternative(s) has been completed. A complete and comprehensive environmental analysis has been conducted. Completion of the environmental assessment, along with implementation of required stipulations and/or mitigating measures outlined in the environmental assessment and Application for Permit to Drill (APD) conditions of approval, will result in (projected) impacted resources values being restored to pre-project conditions and/or acceptable post-project standards. Further analysis in an environmental impact statement is not needed.

Decision Record

Based upon the analysis, the proposed Cooker "BCB" Federal Com. #3 gas well, located in the NW¼SE¼, 1680' FSL & 1980' FEL, Section 14, T. 6 S., R. 26 E., is approved.

The Bureau of Land Management's approval of the APD does not relieve the lessee and operator from obtaining required authorizations from the private surface owner.

Rational: The amount of new long-term disturbance will be limited to the well pad and access road. Short-term impacts will last approximately one growing season or until there is successful plant growth on the rehabilitated portion.

The Bureau of Land Management staff has reviewed the environmental assessment and identified site-specific mitigation measures to avoid or minimize surface impacts resulting from the construction of this project. The well pad and access road will remain as long term impacts. The cumulative impacts to the environment from existing and new development have been identified. During construction activities, machinery emissions, disturbed ground, drilling and construction equipment will result in short-term visual impacts. These impacts will be minimized by a rapid construction schedule and site restoration.

VRM - The Bureau of Land Management has developed a visual resource management (VRM) classification system designed to enhance visual qualities and describe degrees of modification to the landscape. The proposed project area is classified as a class III VRM. The III VRM allows for minor through major modifications of the existing landscape and the level of change in the basic landscape from depending of the VRM Classification.

A cultural and historic resource category 3 inventory was conducted on the 16th of October 2007 for the Cooker "BCB" Federal Com #3. A total of 9.28 acres of Federal land were inventoried along the proposed well pad and access road. No sites were recorded that could be impacted. Standard stipulations will be required on the project. See Cultural Resource Stipulations attached to the APD. A cultural clearance was granted on 8th of November 2007.

The operator would be allowed to drill this well as part of the further development of, and in accordance with, terms of their Federal lease.

A bond is required for all Federal leases. The bond must guarantee performance and compliance with the lease terms and cover all liabilities arising from, or related to drilling operations on a Federal lease including the restoration of any land or surface waters adversely affected by lease development.

Production history in the Permian Basin has demonstrated that there are no unique or unknown risks. The effects of oil and gas exploration and production are known, and based on experience, mitigation measures and stipulations have been developed to avoid, minimize or eliminate impacts.

The effects on the human environment have not been controversial in the past and the public has not voiced opposition to new wells being drilled in the area.

Secondary effects on soil, erosion, vegetation, cultural resources, wildlife habitat and recreation resources were considered. Partial reclamation will occur during the production phase and full reclamation will occur after final abandonment. Residual impacts that remain after mitigation measures and implemented are found acceptable.

This proposed action is in compliance with the Roswell Resource Management Plan and Final Environmental Management Plan that was approved October 10, 1997. These plans have been reviewed to determine if the proposed action conforms with the land-use planning terms and conditions required by 43 CFR 1610.5. County and local planning: No land-use planning or zoning exists in Chaves County that will affect this action.

Stipulations

Mitigating measures were considered and analyzed in the Environmental Assessment. Based on impact analysis, specific stipulations and/or mitigating measures have been selected and are attached to the approved APD/Sundry. The applicant is responsible for implementing these mitigating measures to prevent and/or reduce impacts projected to occur during and after project completion.

Administrative Review and Appeal: Under BLM regulations, this Decision Record (DR) is subject to administrative review in accordance with 43 CFR 3165. Any request for administrative review of this DR must include information required under 43 CFR 3165.3(b) (State Director Review), including all supporting documentation. Such a request must be filed in writing with the State Director, Bureau of Land Management, 1474 Rodeo Road, Santa Fe, NM 87505, no later than 20 business days after this DR is received or considered to have been received.

Any party who is adversely affected by the State Director's decision may appeal that decision to the Interior Board of Land Appeals, as provided in 43 CFR 3165.4.

Prepared by:

Richard G. Hill

Environmental Protection Specialist Signature Date

Approved by:

Angel Mayes

Assistant Field Manager, Lands & Minerals Signature Date

PECOS DISTRICT - RFO
CONDITIONS OF APPROVAL

11/9/07

OPERATORS NAME: **Yates Petroleum Corporation**
LEASE NO.: **NM-101575**
WELL NAME & NO: **Cooker "BCB" Federal Com. #3**
SURFACE HOLE FOOTAGE: **1680' FSL & 1980' FEL**
LOCATION: **Section 14, T. 6 S., R. 26 E., NMPM**
COUNTY: **Chaves County, New Mexico**

GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

I. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD (Filing of a Sundry Notice is required for this 60 day extension).

II. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

III. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations (access road and/or well pad). Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

IV. CONSTRUCTION

A. NOTIFICATION:

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Roswell Field Office at (505) 627-0247 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved Application for Permit to Drill and Conditions of Approval on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL:

The operator shall stockpile the topsoil of the well pad. The topsoil to be stripped is approximately 6 inches in depth. The topsoil shall not be used to backfill the reserve pit and will be used for interim and final reclamation. The topsoil shall be stockpiled on the southeast corner of the well pad.

C. RESERVE PITS:

The reserve pit shall be constructed and closed in accordance with the NMOCD rules.

The reserve pit shall be constructed 175' X 150' on the NORTH side of the well pad.

The reserve pit shall be constructed, so that upon completion of drilling operations, the dried pit contents shall be buried a minimum depth of three feet below ground level. Should the pit content level not meet the three foot minimum depth requirement, the excess contents shall be removed until the required minimum depth of three feet below ground level has been met. The operator shall properly dispose of the excess contents at an authorized disposal site.

The reserve pit shall be constructed and maintained so that runoff water from outside the location is not allowed to enter the pit. The berms surrounding the entire perimeter of the pit shall extend a minimum of two (2) feet above ground level. At no time will standing fluids in the pit be allowed to rise above ground level.

The reserve pit shall be fenced on three (3) sides during drilling operations. The fourth side shall be fenced immediately upon rig release.

D. FEDERAL MINERAL MATERIALS PIT:

If the operator elects to surface the access road and/or well pad, mineral materials extracted during construction of the reserve pit may be used for surfacing the well pad and access road and other facilities on the lease.

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. Call the Roswell Field Office at (505) 627-0236.

E. WELL PAD SURFACING:

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational need.

F. ON LEASE ACCESS ROADS:

Road Width

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed thirty (30) feet.

Surfacing

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

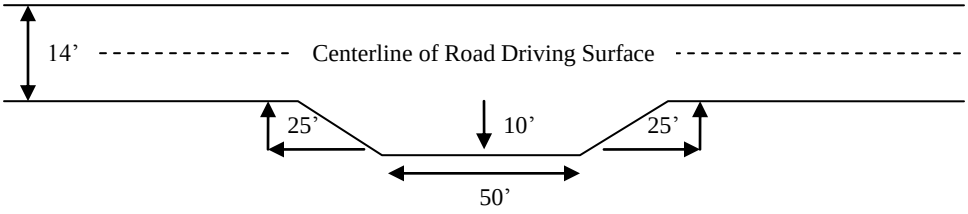
Crowning

Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Turnouts

Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:

Standard Turnout – Plan View

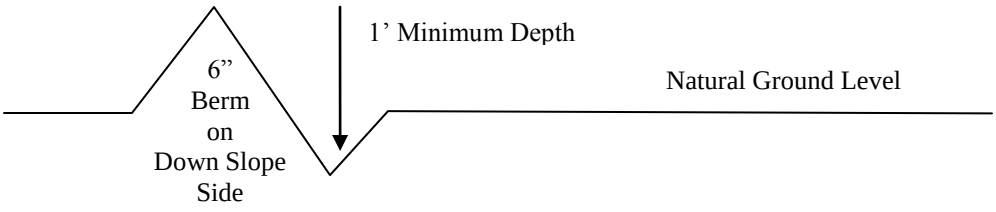


Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section Of Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula For Spacing Interval Of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$\text{400 foot road with 4\% road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

Cattleguards

An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s). A cattleguard with a swinging arm gate shall be constructed and installed at the fence crossing in SW¼NW¼SE¼ in Sec. 14 - T. 6 S. - R. 26 E..

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

A gate shall be constructed and fastened securely to H-braces.

Fence Requirement

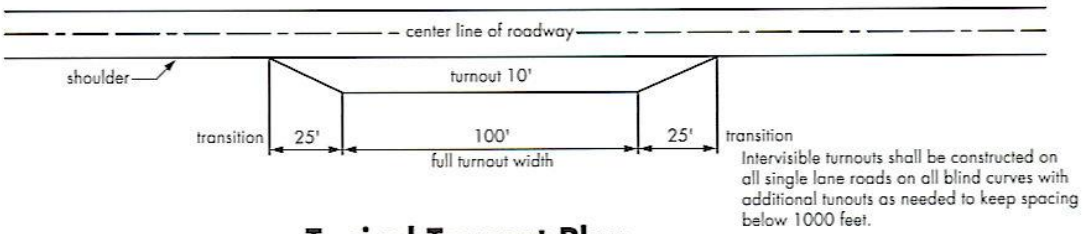
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Public Access

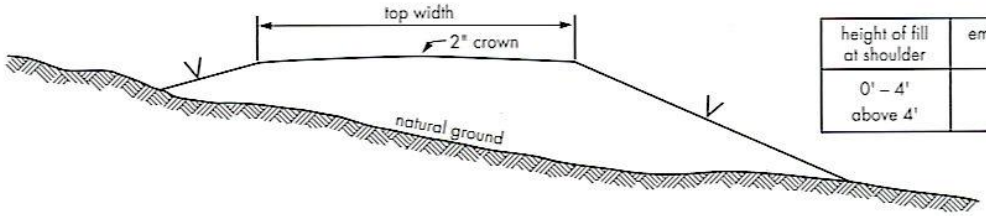
Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Figure 1 – Cross Sections and Plans For Typical Road Sections



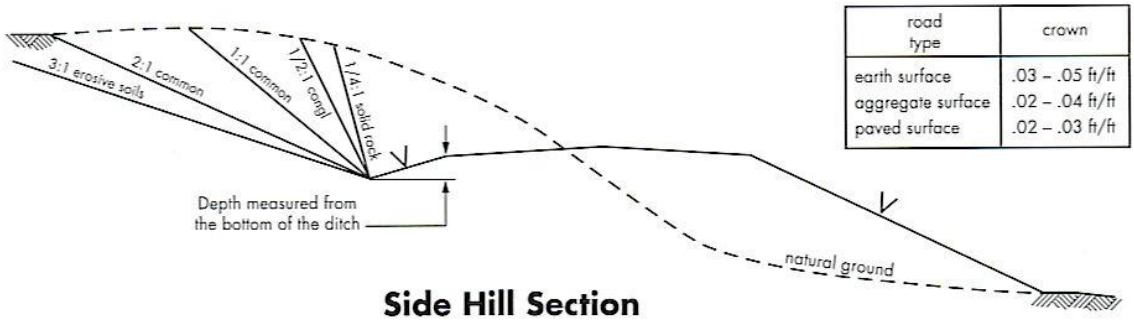
Intervisible turnouts shall be constructed on all single lane roads on all blind curves with additional tunouts as needed to keep spacing below 1000 feet.

Typical Turnout Plan



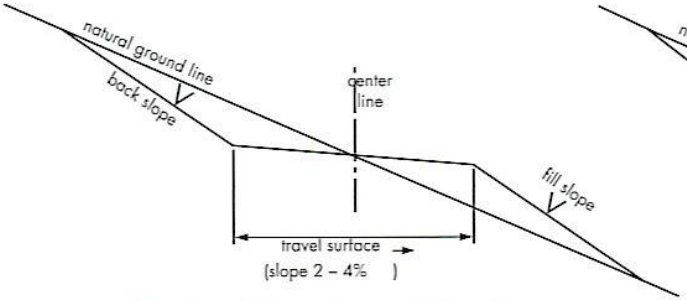
height of fill at shoulder	embankment slope
0' – 4'	3:1
above 4'	2:1

Embankment Section

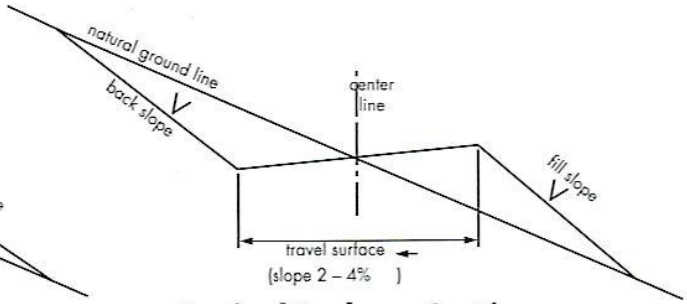


road type	crown
earth surface	.03 – .05 ft/ft
aggregate surface	.02 – .04 ft/ft
paved surface	.02 – .03 ft/ft

Side Hill Section



Typical Outsloped Section



Typical Inslope Section

V. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201. 24 hours call (505) 627-0205.

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

a. Spudding well
b. Setting and/or Cementing of all casing strings
c. BOPE tests

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

2. A Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the BLM. The effective date of the agreement shall be prior to any sales.

B. CASING

1. The 9-5/8 inch surface casing shall be set at 950 feet and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.

    b. Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compression strength, whichever is greater. (This is to include the lead cement).

    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compression strength, whichever is greater.

    d. If cement falls back, remedial action will be done prior to drilling out that string.

2. The minimum required fill of cement behind the 5-1/2 inch production casing is to reach at least 200 feet above the top of the Glorieta formation.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 2000 (2M) psi.

3. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. The tests shall be done by an independent service company.

    b. The results of the test shall be reported to the appropriate BLM office.

    c. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

    d. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

D. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

1. Recording pit level indicator to indicate volume gains and losses.

2. Mud measuring device for accurately determining the mud volumes necessary to fill the hole during trips.

3. Flow-sensor on the flow line to warn of abnormal mud returns from the well.

E. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

Engineer on call phone (after business hours only): Roswell: (505) 626-5749 .

VI. PRODUCTION

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Containment Structures

The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

Painting Requirement

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Olive Drab, Color Chart 18-0622 TPX from the Pantone for Architecture and Interiors Color Guide**

VII. INTERIM RECLAMATION & RESERVE PIT CLOSURE

A. INTERIM RECLAMATION

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting interim reclamation.

During the life of the development, all disturbed areas not needed for active support of production operations should undergo "interim" reclamation in order to minimize the environmental impacts of development on other resources and uses.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche may be used in road repairs, fire walls or for building other roads and locations. In addition, in order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

B. RESERVE PIT CLOSURE

At the time reserve pits are to be reclaimed, operators should work with BLM surface management specialists to devise the best strategies to reduce the size of the location. Any reductions should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

The reserve pit, when dried and closed, shall be recontoured, all trash removed, and reseeded as follows:

The following soil or soil associations may represent these ecological sites:
Alama silt loam, dry, 0-3% Slope, Atoka, Bigetty-Pecos, Harkey fine sandy loam, Holloman, Holloman-Gypsum Land, Hollomex loam, 1-9% slope, dry, Largo loams, Milner loam, 0-2% slope, dry, Reagan loam, Reakor, Reakor-Bigetty, Reakor-Tencee, Reeves loam, 0-2% slope, dry, Russler, Shanta, Upton-Reakor

Loamy, SD-3 Ecological Site; Loamy CP-2; Gyp Upland CP-2

Common Name and Preferred Variety	Scientific Name	Pounds of Pure Live Seed Per Acre
Blue grama,	(*Bouteloua gracilis)*	4.00 lbs.
Sideoats grama,	(*Bouteloua curtipendula)*	1.00 lb.
Sand dropseed	(*Sporobolus cryptandrus)*	0.50 lb.
Vine mesquite	(*Panicum obtusum)*	1.00 lb.
Plains bristlegrass	(*Setaria macrostachya)*	1.00 lb.
Indian blanketflower	(*Gaillardia aristata)*	0.50 lb.
Desert or Scarlet Globemallow or (*S. coccinea)*	(*Sphaeralcea ambigua*)	1.00 lb.
Annual sunflower	*(Helianthus annuus)*	0.75 lb.
TOTAL POUNDS PURE LIVE SEED (pls) PER ACRE		9.75 lbs.

Certified Weed Free Seed. If one species is not available, increase ALL others proportionately. Use No Less than 4 species, including one forb. No less than 9.75 pounds pls per acre shall be applied

VIII. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS

Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation and restoration of all disturbed areas.